

Amendments to the Claims

This Listing of Claims replaces all prior versions, and listings, of claims in this application.

1. (Currently Amended) A desoldering tool having a tip for melting solder and retrieving the melted solder through the tip, the desoldering tool comprising:
 - an unheated storage adapted to retain the solder;
 - a heating element disposed between the tip and the storage;
 - a first handle adapted to couple to a vacuum source and provide a passage within the first handle to convey the vacuum source to the tip to retrieve the melted solder, the first handle having an opening in a side thereof defining a cavity adapted to releasably receive the storage to retain the melted solder retrieved through the tip; and
 - a second handle adapted to releasably couple to the first handle in a tangential manner.
2. (Withdrawn) The desoldering tool according to claim 1, where the first handle has a front end with first and second openings, and further including a heater cartridge having a leading section in a staggered relationship with an electrical cartridge, where the first and second openings are adapted to receive at least a portion of the leading section and the electrical cartridge, respectively.
3. (Withdrawn) The desoldering tool according to claim 2, where the front end has at least one notch adapted to receive a tooth protruding from the heater cartridge to align the heater cartridge to the first handle.
4. (Withdrawn) The desoldering tool according to claim 1, where the first handle has a back holder adapted to move between a first position and a second position, where in the first position the longitudinal length of the cavity is longer than the length of the storage to allow the storage to be inserted or removed from the cavity, where in the second position the length of the cavity is at least equal to the length of the storage to hold the storage within the cavity.

5. (Withdrawn) The desoldering tool according to claim 4, where the storage has a first end and a second end and further including first and second seal members within the cavity adapted to substantially seal the first and second ends of the storage within the cavity in the second position.
6. (Withdrawn) The desoldering tool according to claim 5, where the first seal member and second seal member each has a bevel edge along its outer edge.
7. (Withdrawn) The desoldering tool according to claim 5, where the second seal member is releaseably coupled to the back holder, where the second end of the storage has a divot adapted to receive a key formed on the second seal member when the back holder is in the second position.
8. (Withdrawn) The desoldering tool according to claim 4, where the storage has a divot adapted to receive a key when the back holder is moved from the first position to the second position to orient the storage relative to the first handle.
9. (Withdrawn) The desoldering tool according to claim 2, further including a power line coupled to the first handle to provide power to the leading section to convert the power to heat for heating the tip.
10. (Withdrawn) The desoldering tool according to claim 1, further including a heater cartridge having a channel adapted to retrieve the melted solder therethrough, where the longitudinal axis of the channel is substantially aligned with a longitudinal axis of the passage.
11. (Withdrawn) The desoldering tool according to claim 9, where the first handle has a first trigger and the second handle has a second trigger, when the second handle is releaseably coupled to the first handle, the second trigger is mechanically coupled to the first handle so that actuation of the second trigger actuates the first trigger to provide vacuum source to the tip.

12. (Currently Amended) A system for melting solders with a tip and removing the melted solder through the tip, the system comprising:

a storage adapted to retain the removed solder;

a heater disposed between the tip and the storage;

a first handle coupled to a power line to provide power to the heater to convert the power to heat near the tip to melt the solder, having a first trigger to control a vacuum source to the tip, and having an opening in a side of the first handle defining a cavity adapted to accept the storage; and

a second handle adapted to releasably couple to the first handle in a tangential manner, the second handle having a second trigger that is mechanically coupled to the first trigger when the second handle is coupled to the first handle such that actuation of the second trigger causes the first trigger to turn on or off a vacuum source to the tip for removing the melted solder through the tip.

13. (Withdrawn) The system according to claim 12, further including a storage capable of retaining the melted solder retrieved through the tip, where the first handle is adapted to couple to the vacuum source and provide a passage within the first handle to provide the vacuum source to the tip to retrieve the melted solder, the first handle having a cavity adapted to releasably receive the storage to retain the melted solder retrieved through the tip.

14. (Withdrawn) The system according to claim 13, where the first handle has a front end with a first opening, and further including a leading section with a channel adapted to retrieve the melted solder therethrough and the longitudinal axis of the channel is substantially aligned with the longitudinal axis of the passage.

15. (Withdrawn) The system according to claim 12, where the first handle has a front end with first and second openings, and further including a heater cartridge having a leading section in a staggered relationship with an electrical cartridge, where the first and second openings are adapted to receive at least a portion of the leading section and the electrical cartridge, respectively.

16. (Withdrawn) The system according to claim 15, further including a heater cartridge remover adapted to associate with the heater cartridge to remove the heater cartridge from the first handle.
17. (Withdrawn) The system according to claim 16, where the heater cartridge remover is adapted to associate with an underside of the heater cartridge.
18. (Withdrawn) The system according to claim 13, where the first handle has a back holder adapted to move between a first position and a second position, where in the first position the longitudinal length of the cavity is longer than the length of the storage to allow the storage to be inserted or removed from the cavity, where in the second position the length of the cavity is at least equal to the length of the storage to engage the storage within the cavity.
19. (Withdrawn) The system according to claim 13, where the storage has a first end and a second end and further including first and second seal members within the cavity adapted to substantially seal the first and second ends of the storage within the cavity in the second position.
20. (Withdrawn) The system according to claim 19, where the second seal member is releaseably coupled to the back holder, where the second end of the storage has a divot adapted to receive a key formed on the second seal when the back holder is in the second position.
21. (Withdrawn) The system according to claim 13, where the storage has a divot adapted to receive a key when the back holder is moved from the first position to the second position to orient the storage relative to the first handle.
22. (Withdrawn) The system according to claim 15, further including a power line coupled to the first handle to provide power to the heater within the leading section to convert the power to heat for heating the tip.

23. (Withdrawn) The system according to claim 12, further including a heater cartridge having a channel adapted to retrieve the melted solder therethrough, where the longitudinal axis of the channel is substantially aligned with a longitudinal axis of the passage.

24. (Withdrawn) The system according to claim 22, where the first handle has a first trigger and the second handle has a second trigger, when the second handle is releaseably coupled to the first handle, the second trigger is mechanically coupled to the first handle so that actuation of the second trigger actuates the first trigger to provide vacuum source to the tip.

25. (Withdrawn) The system according to claim 23, where the second handle includes a pin that is adapted to move between a first position and a second position, where in the first position the pin protrudes from the second handle and in the second position the pin is recessed within the second handle, where the pin is sized to fit inside the channel for cleaning.

26. (Withdrawn) The system according to claim 23, further including a heater cartridge remover adapted to engage with the heater cartridge to remove the heater cartridge from the first handle.

27. (Withdrawn) The system according to claim 12, further including a desoldering control box capable of delaying providing the vacuum source to the tip.

28. (Withdrawn) The system according to claim 12, further including a heater cartridge having a transition section adapted to couple a leading section and an electrical cartridge in a staggered manner, where the transition section has a sleeve protruding from one side adapted to receive an electrical cartridge and an pipe end of the leading section protruding from the same side of the transition section, where the pipe end and the sleeve are adapted to insert into first and second openings of the first handle, respectively, with the sleeve engaging with the second opening before the pipe

end engages with the first opening to orient the heater cartridge relative to the first handle.

29. (Withdrawn) The system according to claim 28, where the sleeve has a cavity adapted to engage with a hinge within the second opening to substantially prevent the heater cartridge from disengaging with the first handle.

30. (Withdrawn) The system according to claim 29, where the hinge is coupled to a button when activated causes the hinge to release the sleeve to disengage the heater cartridge from the first handle.

31-80 (Cancelled).

81. (Currently Amended) A desoldering tool comprising:
an unheated storage to retain solder;
a desoldering tip having a desoldering channel;
a heater disposed between the desoldering tip and the storage, and surrounding at least a portion of the desoldering channel;
a first handle, having a recess in a side of the first handle defining a cavity to releasably receive the storage, supporting the desoldering tip and adapted to couple to a vacuum source to withdraw melted solder through the desoldering channel;
a first actuator on the first handle and adapted to allow a user of the desoldering tool who is holding the first handle to control the communication of the vacuum source with the desoldering channel;
a second handle;
a second actuator on the second handle;
the second handle being adapted to couple to the first handle in a coupled position and to subsequently be uncoupled therefrom by a user; and
the second actuator when the second handle is in the coupled position being adapted to allow a user of the desoldering tool who is holding the second handle to control the communication of the vacuum source with the desoldering channel.

82. (Original) The desoldering tool of claim 81, wherein the first actuator is a user-actuable first trigger and the second actuator is a user-actuable second trigger.

83. (Original) The desoldering tool of claim 81, further comprising means for operatively connecting the second actuator to the first actuator when the second handle is in the coupled position.

84. (Original) The desoldering tool of claim 81, wherein the second handle forms a pistol grip handle and the second actuator forms a trigger on the pistol grip handle.

85. (Withdrawn) The desoldering tool of claim 81, further comprising a releasable locking means for locking the second handle to a bottom surface of the first handle in the coupled position.

86. (Currently Amended) A desoldering tool heater cartridge assembly unit, comprising:

- a desoldering tool tip;

- a heater cartridge having a heater for heating solder in the desoldering tool tip[.];

- the tool tip and the heater cartridge defining a solder suction channel and having a longitudinal channel axis connectable to a vacuum source[.];

- a storage for receiving the solder, the heater surrounding at least a portion of the solder suction channel between the tip and the storage;

- an elongated electrical cartridge having a longitudinal cartridge axis and connectable to an electrical power source;

- the longitudinal cartridge axis being offset from and parallel to the longitudinal channel axis; and

- a transition section electrically connecting the electrical cartridge to the heater cartridge.

87. (Withdrawn) The cartridge assembly unit of claim 86, wherein the transition section includes gap means defining a gap and electrical conductor wiring in the gap.

88. (Withdrawn) The cartridge assembly unit of claim 87, wherein the gap means includes a pair of plates disposed perpendicular to the cartridge axis and the channel axis.

89. (Withdrawn) The cartridge assembly unit of claim 86, wherein the heater cartridge surrounds a rearward portion of the desoldering tool tip.

90. (Withdrawn) The cartridge assembly unit of claim 86, further comprising a pipe extending rearwardly from the solder suction channel.

91. (Withdrawn) The cartridge assembly unit of claim 86, further comprising a sleeve surrounding a forward portion of the electrical cartridge.

92. (Currently Amended) A system for melting solder through a tip, the system comprising:

- a storage for accepting melted solder;

- a heater disposed between the tip and the storage;

- a first handle having an elongated side and an opening in the elongated side defining a portion of a cavity, the cavity adapted to receive the storage through the opening, a first trigger and a longitudinal axis, where activation of the first trigger provides power to the heater and the tip to melt solder; and

- a second handle having a grip area with a second trigger, where the first and second handles are adapted to couple together such that the grip area of the second handle is tangential relative to the longitudinal axis of the first handle and activation of the second trigger causes activation of the first trigger to provide power to the tip.

93. (Withdrawn) The system according to claim 92, where the first handle is adapted to provide vacuum source to the tip to remove the melted solder through a channel within the tip.

94. (Original) The system according to claim 92, where the first handle is capable of operating independently from the second handle to provide power to the tip.

95. (Previously presented) The desoldering tool according to claim 1, where the first handle has a first trigger and the second handle has a second trigger.

96. (Previously presented) The desoldering tool according to claim 95, where when the second handle is releasably coupled to the first handle, the second trigger is mechanically coupled to the first handle so that actuation of the second trigger actuates the first trigger to provide vacuum source to the tip.

97. (Previously presented) The desoldering tool according to claim 95, further comprising means for operatively connecting the second trigger to the first trigger when the second handle is coupled to the first handle.

98. (Previously presented) The desoldering tool according to claim 1 where the first handle forms a pen-type handle and the second handle when coupled to the first handle forms a pistol grip-type handle.

99. (Previously presented) The desoldering tool according to claim 1, further comprising a releasable locking means for locking the second handle to a bottom surface of the first handle.

100. (Previously presented) The desoldering tool according to claim 1, where the first handle is capable of operating independently from the second handle to provide power to the tip.

101. (Previously presented) The system according to claim 12, where the first handle and the first trigger together form a pen-type trigger handle, and the second handle and the second trigger together form a pistol-grip trigger handle.

102. (Previously presented) The system according to claim 92, where the first trigger is directly user operable when the second handle is not coupled to the first handle.

103. (Previously presented) The system according to claim 92, where the first handle and the first trigger together form a pen-type trigger handle, and the second handle and the second trigger together form a pistol-grip trigger handle.

104. (Previously presented) The system according to claim 92, further comprising locking means for releasably locking the second handle to a bottom surface of the first handle.

105. (Currently Amended) A desoldering tool comprising:
a desoldering tip having a pointed end and a desoldering channel;
a first handle supporting the desoldering tip and operatively communicable with a vacuum source;
a solder collection storage cartridge;
an exterior side surface of the first handle having a recess defining a solder collection storage cartridge cavity;
the cavity being adapted such that when the solder collection storage cartridge is operatively positioned in the cavity, the cartridge is communicable with the vacuum source to suck solder through the desoldering channel into the cartridge;
the cavity being adapted to allow the cartridge to be directly inserted into and removed from the cavity without opening the first handle;
the first handle having a first trigger;
a heater disposed between the pointed end of the desoldering tip and the desoldering collection storage cartridge cavity and surrounding at least a portion of the desoldering channel; and
a second handle having a second trigger;
the second handle being releasably couplable to the first handle.

106. (Previously presented) The desoldering tool of claim 105, wherein the first trigger is operatively connectable to the vacuum source.

107. (Previously presented) The desoldering tool of claim 106, wherein when the second handle is releasably coupled to the first handle, the second trigger is operatively connected to the first trigger.

108. (Previously presented) The desoldering tool of claim 107, wherein the solder collection storage cartridge has a housing and a U-shaped radiation member, and the

second trigger when actuated operates the vacuum source to suck melted solder into the housing.

109. (Previously presented) The desoldering tool of claim 105, further comprising the first handle having a passage, a forward end of the passage communicating with a rearward end of the solder collection storage cartridge when in the cavity, and a rearward end of the passage communicable with the vacuum source, wherein longitudinal centerlines of the desoldering channel, the cartridge and the passage are aligned.

110. (Previously presented) The desoldering tool of claim 105, wherein the cavity is at a forward top area of the first handle.

111. (Previously presented) The desoldering tool of claim 105, wherein the first handle and the first trigger together form a pen-type trigger handle, and the second handle and the second trigger together form a pistol-grip trigger handle.

112. (Previously presented) The desoldering tool of claim 105, wherein when the second handle is releasably coupled to the first handle, the second trigger is operatively connected to the first trigger.

113. (Previously presented) The desoldering tool of claim 105, wherein the solder collection storage cartridge has a housing and a U-shaped radiation member, and the second trigger when actuated operates the vacuum source to suck melted solder into the housing.